

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An electron gun of the in-line type, comprising;
cathodes ~~(2)~~ for emitting electrons, which said cathodes are juxtaposed in a first direction, and
a main lens section ~~(4)~~ comprising at least two electrodes ~~(10,11,12)~~, whereby a gap is provided between adjacent ones of the electrodes, and a gap-facing end of ~~an~~ at least one of the electrodes comprising an electrode rim, characterized in that at least a selected one of the electrodes ~~(10,11,12)~~ comprises a plate-shaped element ~~(14,19)~~ arranged inside the selected electrode, said element being provided with a common aperture for passing electrons from each cathode, a dimension of said aperture to a second direction being smaller than a cross-section diameter of said rim in the second direction, the second direction being perpendicular to both the first direction and a central axis of the electron gun.
2. (Currently Amended) An ~~E~~electron gun according to claim 1, wherein, for said at least one of the electrodes ~~(10,11,12)~~, a distance along the central axis from the gap to the plate-shaped element ~~(14,19)~~ is smaller than the dimension of said aperture in the second direction.
3. (Currently Amended) An ~~E~~electron gun according to claim 1, wherein the electrodes of the main lens section each comprise at least one plate-shaped element arranged on the inside of the electrode, said plate-shaped element being one of
a first type of plate-shaped element ~~(14,19)~~ being provided with a common aperture for passing electrons from each cathode, and
a second type of plate-shaped element ~~(15,16,18)~~ being provided with a number of apertures, each aperture corresponding to a cathode for passing electrons from said cathode only,
wherein said plate-shaped element in said at least one of the electrodes ~~(20,21, 22)~~ is a plate-shaped element of the first type.

4. (Currently Amended) An ~~E~~electron gun according to claim 3, wherein the main lens section comprises two electrodes ~~(41,43)~~ defining, in operation, a bi-potential main lens,

wherein an electrode ~~(41)~~ receiving a lower voltage (V_{dyn}) is provided with a plate-shaped element of the second type ~~(42)~~, and an electrode ~~(43)~~ receiving a higher voltage (V_a) is provided with a plate-shaped element of the first type.

5. (Currently Amended) An ~~E~~electron gun according to claim 3, wherein the main lens section comprises three electrodes ~~(10,11,12)~~ defining, in operation, a Dynamic Composes Field Lens (DCFL)-type main lens,

wherein an electrode ~~(10)~~ receiving a lower voltage (V_{dyn}) is provided with a plate-shaped element of the first type ~~(14)~~,

an electrode ~~(11)~~ receiving an intermediate voltage (V_i) is provided with a plate-shaped element ~~(16)~~ of the second type, and

an electrode ~~(12)~~ receiving a higher voltage (V_a) is provided with a plate-shaped element ~~(19)~~ of the first type.

6. (Currently Amended) An ~~E~~electron gun according to claim 4 ~~or~~ 5, wherein an electrode provided with a plate-shaped element of the first type does not include a plate-shaped element of the second type.

7. (Currently Amended) An ~~E~~electron gun according to claim 1, wherein the aperture in the plate-shaped element ~~(70)~~ of said at least one of the electrodes is barrel-shaped.

8. (Currently Amended) An ~~E~~electron gun according to claim 3, wherein the aperture in the plate-shaped element ~~(70)~~ of the first type is barrel-shaped.

9. (Currently Amended) An ~~E~~electron gun according to claim 1, wherein a dimension of the aperture in the first direction is at least 75 % of a cross-section diameter of the electrode rim in the first direction.

10. (Currently Amended) An ~~E~~electron gun according to claim 1, wherein a dimension of the aperture in the second direction is at least 25% of a largest cross-section diameter of the electrode rim in the second direction.